



Data Management

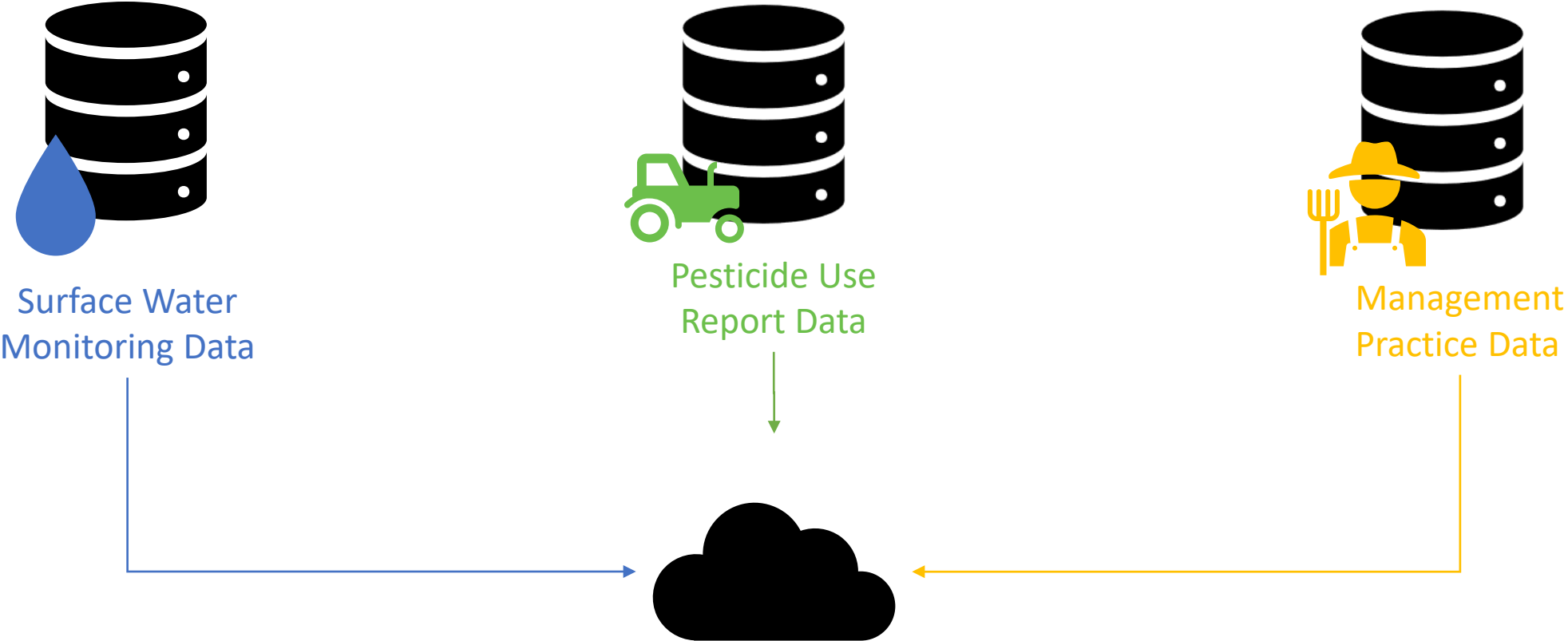
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ESJ Surface Water Quality Monitoring Program Review
January 7, 2020

Data Requirements: Attachment B to General Order R5-2012-0116-08

- “Surface water monitoring must provide sufficient data to describe irrigated agriculture’s impacts on **surface water quality** and to determine whether existing or newly implemented **management practices** comply with the receiving water limitations of the Order.” (page 7)
- “The frequency of data collection must be sufficient to allow determination of compliance with the relevant numeric water quality objective(s) or water quality triggers.” (page 8)
- “The third party may use the previous three years of available **PUR data** to determine which of the parameters listed in Table 2 require testing in the sediment sample.” (page 12)

Data Storage



Data Requirements - Storage



Storage of all records - 10 Years

Third party backup of data



CEDEN Comparable

Electronic Data Deliverable (EDDs)

eQAPP

Flagging of data

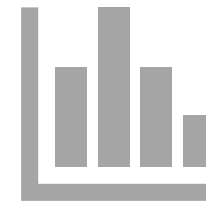
Data Requirements - Reporting



Surface Water
Exceedance Reports –
no later than 5
business days



Quarterly Reporting



Annual Reporting

Data Requirements – Quarterly Reporting

- Previous quarter's surface water monitoring results
- Excel workbook
- Most recent version of the eQAPP
- Field sheets
- Photos
- Laboratory reports
- EDDs
- Description of any data missing, status of loading into the CEDEN comparable database



Data Requirements - Annual Reporting



What did we collect?

(9) Tabulated results



Did we collect what we were supposed to? If not, why?

(12) Precision, Accuracy and Completeness



Were any of the results above an exceedance threshold?

(14) Summary of Exceedances



What are the trends of the data?

(16) Evaluation of Monitoring Data



What practices are effective at reducing exceedances?

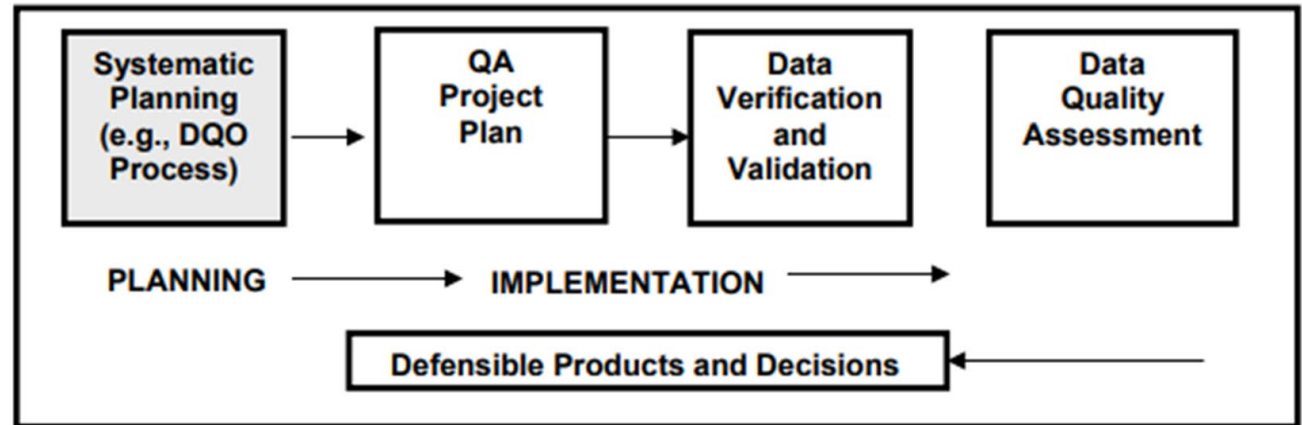
(18) Summary of Management Practices

Data Management

- Data management requirements outlined in the Quality Assurance Project Plan
- EPA Data Quality Objective Process – “...used to develop performance and acceptability criteria (or DQOs) that clarify study objectives, define the appropriate type of data and specify tolerable levels of potential decisions errors that will be used as the basis for establishing the quality and quantify of data needed to support decisions.” (EPA QA/G-4 2006)

Quality Assurance Project Plan

- Follows EPA requirements
- Standard Operating Procedures
 - Field Sampling
 - Laboratory Procedures
 - Data Management
- Amendments
 - Regional Board Amendment form
 - Annual amendments when additional pesticides are being added to the program



“Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4” (2006)

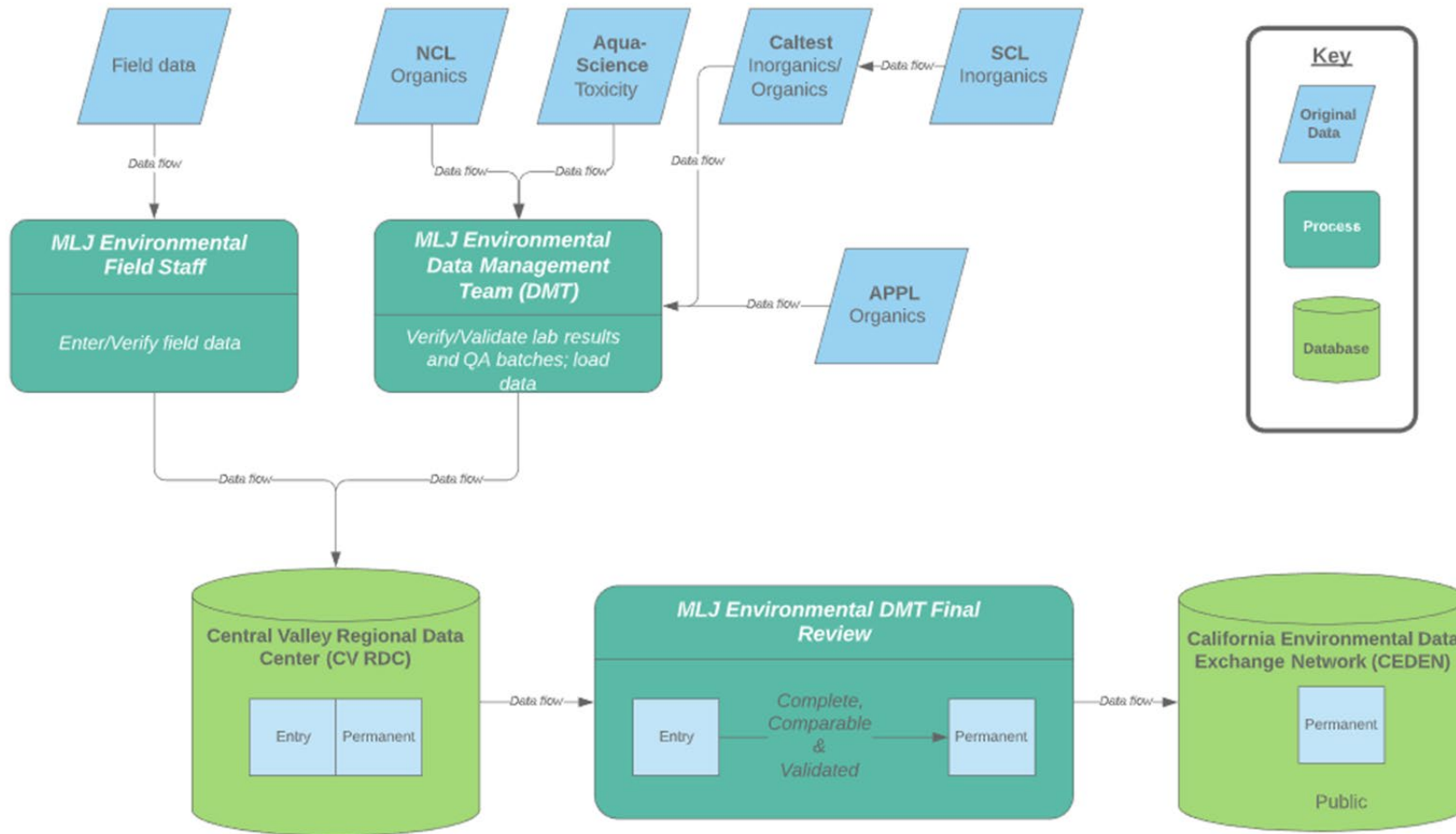
Surface Water Monitoring Data Flow



Original Data



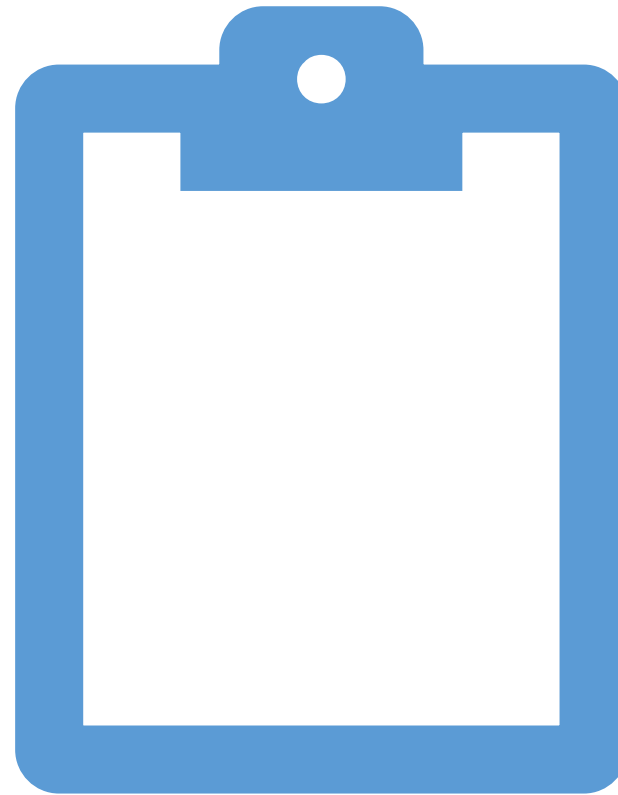
Data Review /
Verification

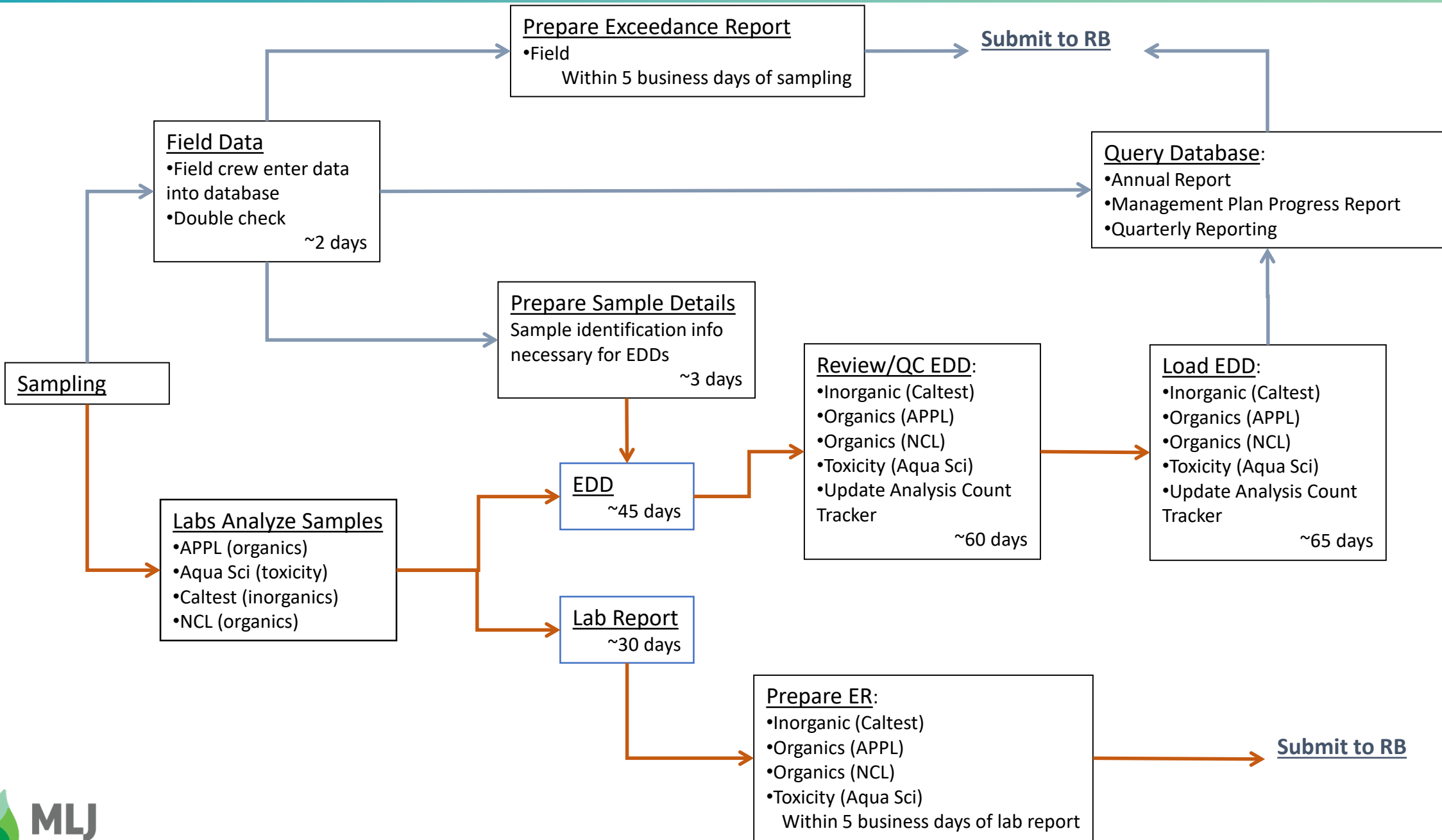


Data Loading /
Processing

Publicly
Available

Original Data





Data Validation / Verification



Data Validation / Verification

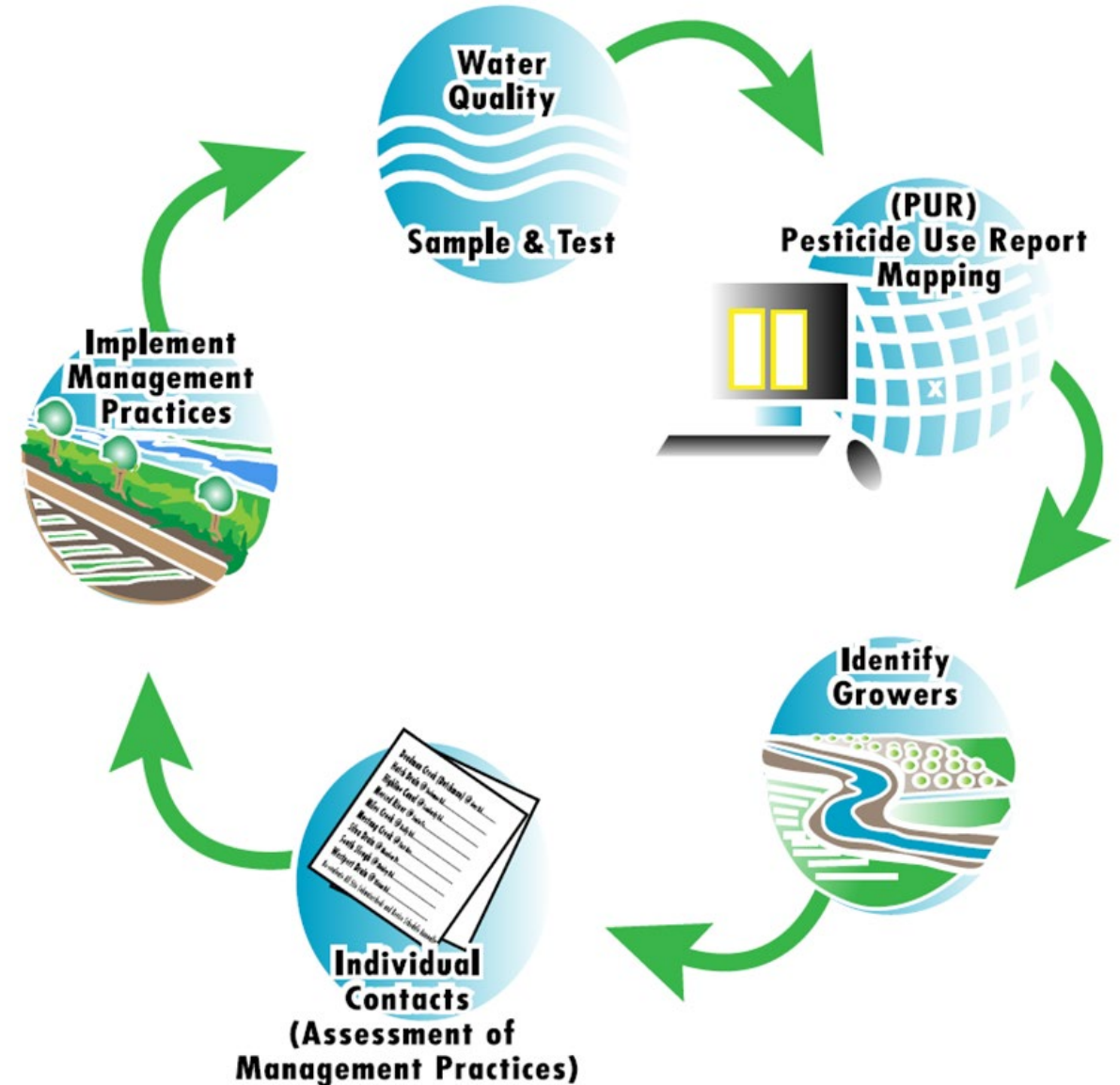
- Data Management Standard Operating Procedures
- Feedback to laboratory and/or field crews if QAPP procedures are not followed
 - Corrective actions
- Data are flagged when Measurement Quality Objectives are not met



Surface Water
Monitoring Data

Data Integration

- Management Plan Progress Report
 - Determination of new management plans
 - Progress on existing management plans
 - Summary of implemented practices
 - Changes in water quality



PUR Data

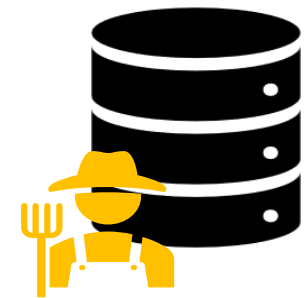
- California Department of Pesticide Regulation Pesticide Use Reporting Data
- Retrieved from CalPIP (QC'd data) and County Agricultural Commissioners (Preliminary data)
- Used for:
 - Pesticide Evaluation Protocol (PEP) – most recent 3 years
 - Associating water quality exceedances to past use



Pesticide Use
Report Data

Management Practice Data

- Growers with applications associated with past exceedances fill out surveys to track management practices
- Changes in management practices are stored in a database
- Reported to the Regional Board as part of the Management Plan Progress Report



Management
Practice Data

Data Integration



What did we collect?



Did we collect what we were supposed to? If not, why?



Were any of the results above an exceedance threshold?



What are the trends of the data?



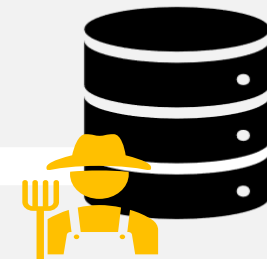
What practices are effective at reducing exceedances?



Surface Water
Monitoring Data



Pesticide
Use
Report
Data



Management
Practice Data